

PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
 (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference O.Z. 6286-WO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/050004	International filing date (<i>day/month/year</i>) 08.01.2004	Priority date (<i>day/month/year</i>) 22.01.2003
International Patent Classification (IPC) or national classification and IPC C01B33/193, C08K3/36, C09C1/30, B60C1/00, B60C17/00		
Applicant DEGUSSA AG		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 6 sheets, as follows: <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s))
, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
<input checked="" type="checkbox"/> Box No. I Basis of the report
<input type="checkbox"/> Box No. II Priority
<input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI Certain documents cited
<input type="checkbox"/> Box No. VII Certain defects in the international application
<input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/050004

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

 - international search (Rule 12.3 and 23.1(b))
 - publication of the international application (Rule 12.4)
 - international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished
 the description:
 pages 1-33 _____ as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

the claims:
 nos. _____ as originally filed/furnished
 nos.* _____ as amended (together with any statement) under Article 19
 nos.* 1-23 _____ received by this Authority on 07.06.2005 with letter
 nos.* _____ received by this Authority on 01.06.2005

the drawings:
 sheets _____ as originally filed/furnished
 sheets* _____ received by this Authority on _____
 sheets* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.	PCT/EP2004/050004
-------------------------------	-------------------

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
-----------	---

1. Statement

Novelty (N)	Claims	1–23	YES
	Claims		NO
Inventive step (IS)	Claims	1–23	YES
	Claims		NO
Industrial applicability (IA)	Claims	1–23	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

This report makes reference to the following documents:

- D1: EP-A-0 983 966 (DEGUSSA-HUELS AKTIENGESELLSCHAFT; DEGUSSA AG) 8 March 2000 (2000-03-08)
- D2: EP-A-0 901 986 (DEGUSSA-HUELS AKTIENGESELLSCHAFT; DEGUSSA AG) 17 March 1999 (1999-03-17)
- D3: EP-A-0 755 899 (DEGUSSA- AKTIENGESELLSCHAFT) 29 January 1997 (1997-01-29)
- D4: WO 96/35639 A (PPG INDUSTRIES, INC) 14 November 1996 (1996-11-14)
- D5: EP-A-0 745 558 (DEGUSSA AKTIENGESELLSCHAFT; DEGUSSA-HUELS AKTIENGESELLSCHAFT) 4 December 1996 (1996-12-04)
- D6: EP-A-0 407262 (RHONE-POULENC CHIMIE) 9 January 1991 (1991-01-09)

The present application claims precipitated silicic acids defined by specific parameter ranges (claims 1–8). The claimed precipitated silicic acids can be

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/050004

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

modified using organosilanes (claims 18 and 19). The methods for producing these precipitated silicic acids are claimed in claims 9-17 and 20.

The possibilities for their use are disclosed in claims 21 and 22.

Claim 23 claims a vulcanizable rubber mixture containing the non-surface-modified precipitated silicic acids.

D1 is regarded as the prior art closest to the subject matter of claim 1.

D1 discloses a precipitated silicic acid having the following physicochemical data:

- BET surface area: 80-180 m²/g
- CTAB surface area: 80-139 m²/g
- BET/CTAB ratio: 1.0-1.6
- Sears number: 5-25 ml
- DBP number: 200-300 ml/100g

D4 (page 16, line 28 to page 17, line 3) shows that precipitated silicic acids normally contain 1-7 percent by weight moisture. This is confirmed by D5 and D6 (see D5, page 8, lines 1-12; D6, examples 1-3).

Therefore, the moisture is regarded as being implicitly disclosed in D1.

The precipitated silicic acids can also be surface-

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/050004

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

modified using organosilanes (D1, claims 11 and 12; page 6, line 2 to page 8, line 10).

The precipitated silicic acids can be mixed into vulcanizable rubber mixtures as a reinforcing filler.

D1 differs from the subject matter of present claim 1 in that it does not claim a ratio of Sears number to BET surface area.

In view of D1, present claim 1 appears to be a selection invention.

An invention is considered a selection invention when the following three requirements have been fulfilled:

- There is no technical effect.
- The examples in the prior art are sufficiently far removed from the embodiments of the present invention.
- A sufficiently narrow scope is claimed as compared to the scope described in the prior art.

The precipitated silicic acid according to claim 1 of the present application differs essentially from the examples in D1, since the feature "ratio of Sears number to BET surface area" is greater, which means that the precipitated silicic acids in D1 have fewer OH groups per square meter of surface area.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITYInternational application No.
PCT/EP2004/050004**Box No. V** **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

The applicant has demonstrated surprising technical effects over the prior art. These technical effects are increased rubber activity, very good dispersion behavior and shorter vulcanization time.

These three requirements and therefore the criterion in PCT Article 33(2) and (3) appear to be satisfied by the present claim 1.

Consequently, the subject matter of claim 1 can be regarded as novel and inventive (PCT Article 33(2) and (3)).

Claims 2-8, 18 and 19 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step, as do the method claims 9-17 and 20 and the use claims 21-23.